Section F

Spent Nuclear Fuel

PROJECT MANAGERS
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INTRODUCTION

The Spent Nuclear Fuel (SNF) Project consists of Project Baseline Summary (PBS) RL-RS03, Work Breakdown Structure (WBS) 3.2.3.

NOTE: Unless otherwise noted, all information contained herein is as of the end of December 2002.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — During the reporting period, the project shipped 22 Multi-Canister Overpacks (MCOs) containing 83.28 Metric Tons of Heavy Metal (MTHM) from K West (KW) to the Cold Vacuum Drying Facility (CVDF). Cumulatively, a total of 177 MCOs containing 918.59 MTHM have been shipped.

Fuel Transfer System (FTS) — The project successfully completed shipping 26 (260 canisters) of the scheduled 30 canister shipments through December 30, 2002 (23 shipments made since November 30, 2002). Efforts are underway to train and qualify additional staff to support two-shift (PQ) FTS Operations. The first MCO containing K East (KE) fuel was shipped on December 11, 2002.

Site-wide Activities — Completed baseline surveillances after emplacement of fuel shipments into storage at the 200 Area Interim Storage Area (ISA):

- Received three shipments of Neutron Radiography Facility (NRF) Training Research and Isotope Production, General Atomics (TRIGA) casks (six casks total, and two Department of Transportation 6M containers, all received in three shipments).
- Received one Shippingport Reactor Spent Fuel shipment from T-Plant (seven of a total of 18 shipments received).
- Continued preparations for receipt of eleven Interim Storage Casks from the Fast Flux Test Facility (FFTF) in support of establishing readiness to receive the first shipment by July, 2003. Provided input to T-3 Cask license modification to enable shipment of intact sodium bonded fuel assemblies to Idaho National Engineering and Environmental Laboratory.
- Continued evaluation of storage of Category I/II spent fuel from FFTF and Plutonium Finishing Plant at the Canister Storage Building (CSB).
- Supported Corporate Project Team for SNF Integration/Disposition review of existing plans and alternatives for final disposition of DOE-owned SNF.

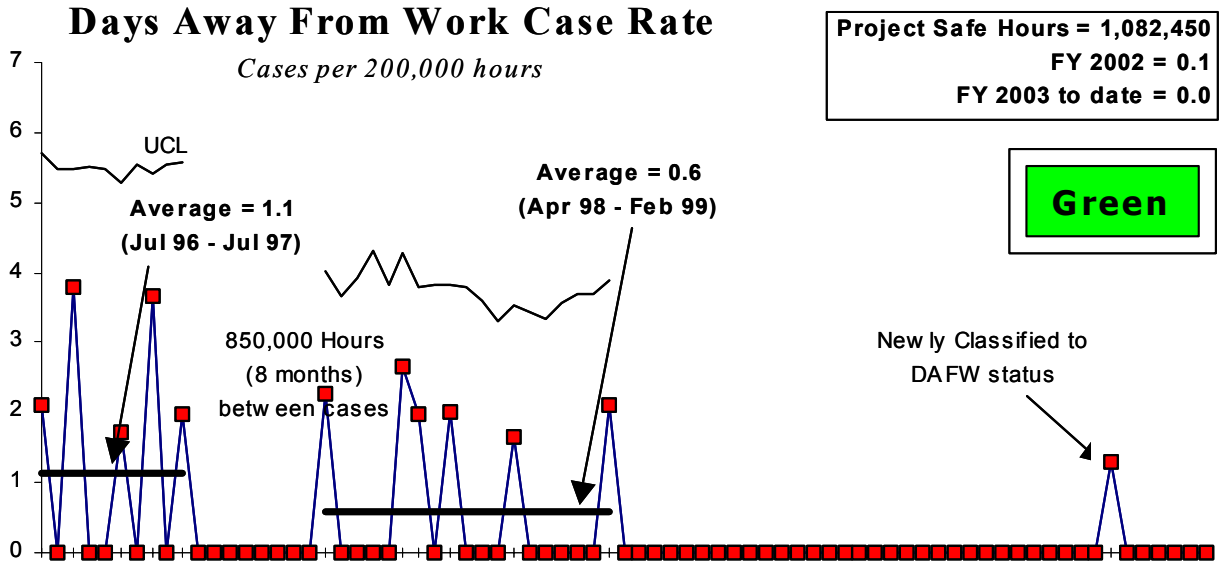
Sludge Water System (SWS) — Activities included:

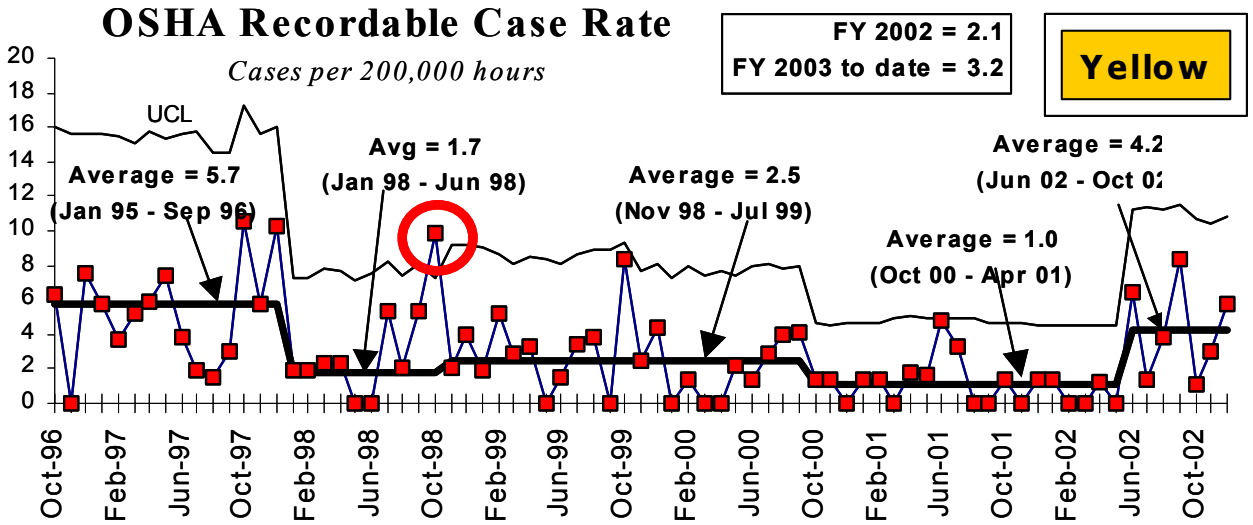
- K East construction is 95 percent complete. The project is currently performing Construction Acceptance Testing, and the Acceptance Test Procedures have been initiated. Sludge Transportation System (STS) Number 1 received and sent to K Basin for testing and validation of Level Indicator System. STS system number two completed Factory Acceptance Testing at vendor on December 23, 2002, will be shipped to Hanford January 3, 2003.

Canister Cleaner Operations — A cumulative total of 1,133 canisters and 917 lids have been cleaned, and 1,172 canisters have been shipped to the Environmental Restoration Disposal Facility (ERDF).

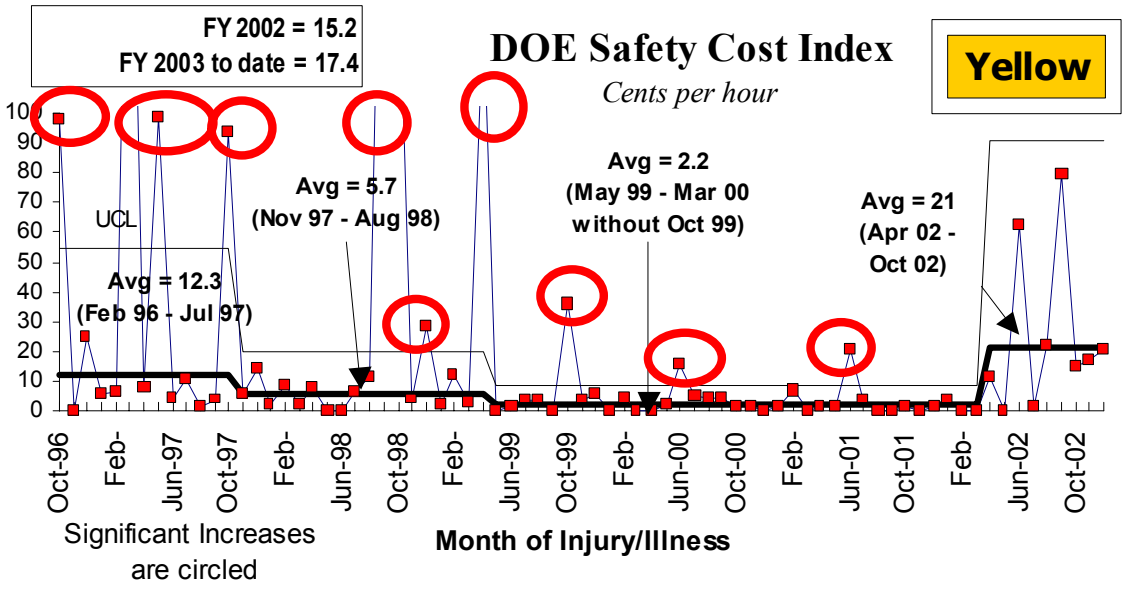
SAFETY

No Lost Away Workday injuries were reported within the SNF Project, thus allowing an achievement of 1.082 million safe work hours by the end of December, 2002. The project continues to experience increases in OSHA Recordable cases, and in the DOE Safety Cost Index. Safety improvement efforts continue. Project leadership approved SNF Project Safety Improvement Plan (SIP) goals on December 11, 2002. The KW Focus Plan team conducted facility familiarization tours in December, 2002. Plans for ergonomic and Soft Tissue Injury Prevention training are scheduled for January, 2003.

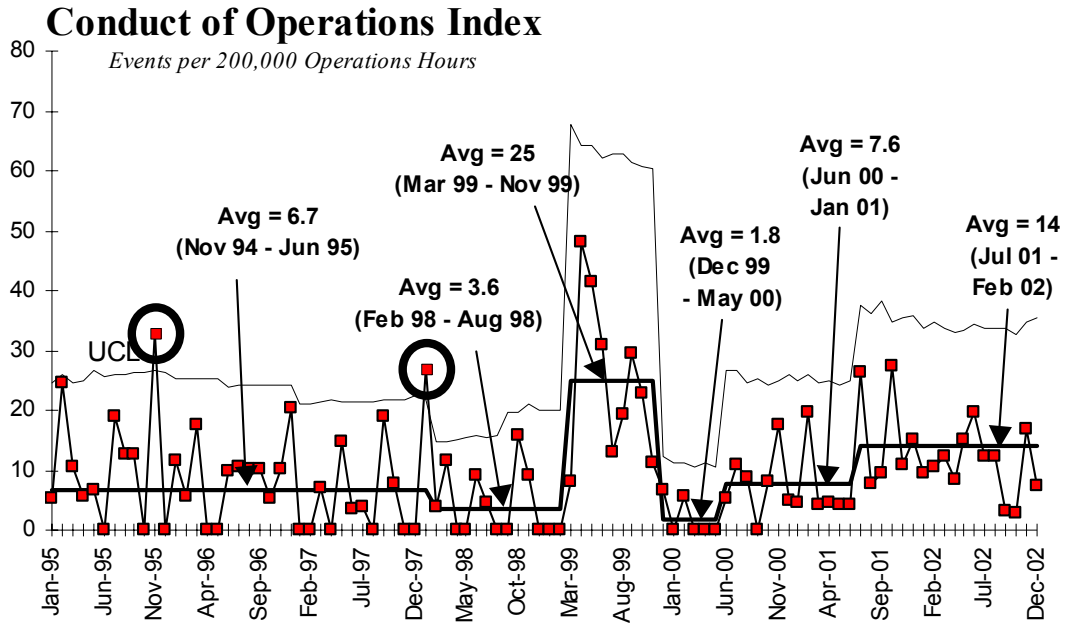




Safety (Continued)



Conduct of Operations



The SNF Project continues to make progress towards actions identified in the Conduct of Operations Improvement Plan. The project conducted a quarterly CONOPs review which indicates that personnel performance areas trending positively. Additional focus has been applied to the project's lock and tag program. The manager-in-the-field activities will focus on radiological controls due to recent contamination events. Facility management is emphasizing procedure compliance during the "Time-out for Safety" meetings, as the project emerges from the quarterly maintenance outage.

BREAKTHROUGHS/OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Nondestructive Examination (NDE) of Contamination in the KE Basin Walls and Floors — A significant activity necessary to deactivate the 100 Area KE Basin is to characterize the level of contamination in the basin's unsealed concrete walls and floor. This characterization data will be used as part of the technical basis to determine the methods to be applied in completing the deactivation of the basin, once the fuel and sludge have been removed.

The SNF Project will be using nondestructive (gamma scanning) techniques and detector systems, developed by the Pacific Northwest National Laboratory, to acquire data on the depth of radionuclide penetration in the basin's concrete walls and floors. This is the first time the NDE technique will be used to obtain characterization data with the facility in normal operation, with its full inventory of fuel, sludge and contaminated water. If successful, the data will be used, in conjunction with other information, to determine which deactivation methods can realistically be used to remove/reduce the radiological dose/contamination, as well as to determine which basin areas are in the greatest need of mitigation. After initial deployment in the KE Basin, the wall detector system received basin water contamination, which must be resolved before data gathering can resume. Recovery efforts have been postponed due to other KE Basin priority work.

Opportunities for Improvement

FTS — The SNF Project brought the FTS on line November 25, 2002, and has averaged approximately five shipments per week since operations began through December 30, 2002. The challenge is to attain a production level of ten cask shipments per week.

UPCOMING ACTIVITIES

SWS — Receive Second Sludge Transportation System by January 6, 2003.

Fuel Movement — Complete removal of 957 MTHM from K West Basin forecasted by January 7, 2003. (Milestone M-34-18A)

SWS — Commence SWS Operational Test Procedures by January 24, 2003.

Transition Projects — Obtain floor dose data in January 2003.

SWS — Acceptance for beneficial use in February 2003.

SWS — Complete construction of SWS (Construction Completion Document Section IIA, Operational Testing) by February 28, 2003. (Milestone M-34-12-T01)

SWS — Start Contractor Operational Readiness Review (ORR) in February 2003.

MCO Welding — Begin welding of MCOs at Canister Storage Building in February 2003.

Fuel Retrieval System (FRS) — Complete construction activities for KW Basin SNF scrap removal system in February 2003.

SWS — Start DOE ORR in March 2003.

SWS — Initiate full scale KE basin sludge removal by April 30, 2003. (Milestone M-34-08)

Transition Projects — Complete K East Basin deactivation alternatives report by April 30, 2003.

Fuel Movement — Complete removal of 1,252 MTHM SNF from K West Basin by May 31, 2003. (Target Milestone M-34-27-T01)

Site-Wide Activities — Receive first shipment of eleven Interim Storage Casks from the Fast Flux Test Facility (FFTF) in July 2003.

MILESTONE ACHIEVEMENT

Number	Milestone Title	Type (TPA/DNF SB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-06-T01	Initiate K West (KW) Basin Spent Nuclear Fuel (SNF) Canister Cleaning Operations	TPA	08/31/01	3/15/02		Complete
M-34-29	Complete K East (KE) Basin and KW Basin facility modifications for AFTS casks transportation system	TPA	3/31/02	9/12/02		Complete. Even though this interim milestone was completed late, the interim milestone in sequence for removing KE Basin SNF to KW Basin (M-34-17), was completed 5 days early.
M-34-12-T01	Complete construction of Sludge Water System (SWS) (Construction Completion Document Section IIA.)	TPA	09/30/02		2/28/03	Behind schedule. Complete construction forecast February 2003.
M-34-17	Initiate KE to KW fuel transfer	TPA	11/30/02	11/25/02		Complete (5 days early)
M-34-18A	Complete removal of 957 Metric Tons of Heavy Metal (MTHM) of SNF from the KW Basin	All 3	12/31/02		1/7/03	Forecast completion 1/7/03.
M-34-08	Initiate full scale KE basin sludge removal	TPA/DNFSB	12/31/02		4/30/03	Behind schedule. RL change request submitted for 4/30/03. Target is 3/28/03.
M-34-27-T01	Complete removal of 1252 MTHM of SNF from KW Basin	TPA	5/31/03		5/31/03	On schedule*
S09-03-010	Select Technology for Sodium Removal from FFTF sodium bonded Spent Fuel pins.	TIP	09/30/03		09/30/03	On schedule
M-34-28	Complete removal of 1619 MTHM from the KW Basin	TPA	12/31/03		12/31/03	On schedule*

MILESTONE ACHIEVEMENT (CONTINUED)

M-34-25-T01	Complete transfer of KE Basin SNF to KW Basin	TPA	5/31/04		5/31/04	On schedule
M-34-18B	Complete removal of all K Basin SNF	TPA/DNFSB	7/31/04		7/31/04	On schedule
M-34-10	Complete sludge removal from K Basins.	TPA/DNFSB	8/31/04		8/31/04	On schedule*
M-34-23	Start KE water removal	TPA	9/30/04		9/30/04	On schedule*
M-34-09-T01	Complete K Basins rack and canister removal	TPA	1/31/05		1/31/05	On schedule*
	Clean-out K East Basin	PI	6/30/05		6/30/05	On schedule
M-34-24	Complete KE Basin Water removal	TPA	9/30/05		9/30/05	On schedule
	Cleanout K West Basin	PI	9/30/05		9/30/05	On schedule
S06-06-005	Complete deactivation and transition to River Corridor Contractor.	PI	10/30/05		10/30/05	
M-34-21-T01	Initiate full-scale KW Basin water removal	TPA	10/30/05		10/31/05	On schedule
M-34-22	Complete KW Basin water removal	TPA	8/31/06		8/31/06	On schedule
M-34-00A	Complete removal of K Basin fuel/sludge/debris/water from K Basins	TPA (Major)	7/31/07		7/31/07	On schedule
S20-10-010	Select technology to prepare SNF MCOs for shipment and demonstrate	TIP	12/30/10		12/30/10	On schedule

NOTE: Above data includes all TPA/DNFSB/Performance Incentive milestones as included in the FH baseline, and provides Contract-to-Date status.

** Milestones affected by contract PI revisions.*

PERFORMANCE OBJECTIVES

Project schedule is being rebaselined. Performance objectives will be finalized after the rebaseline is complete.

Move Fuel Away from the River

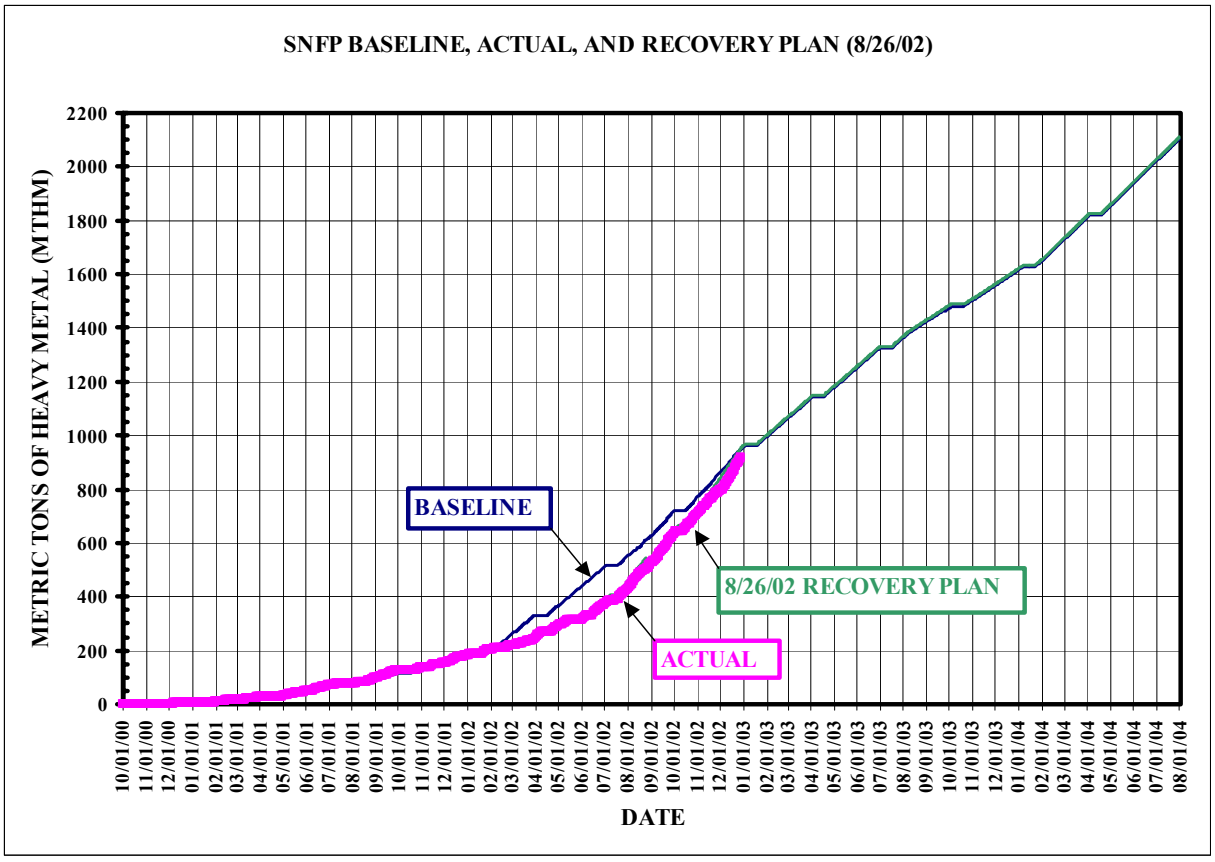
EXPECTATION: Remove spent fuel from K Basins

Complete removal of 300 MCOs from K Basins by September 2003

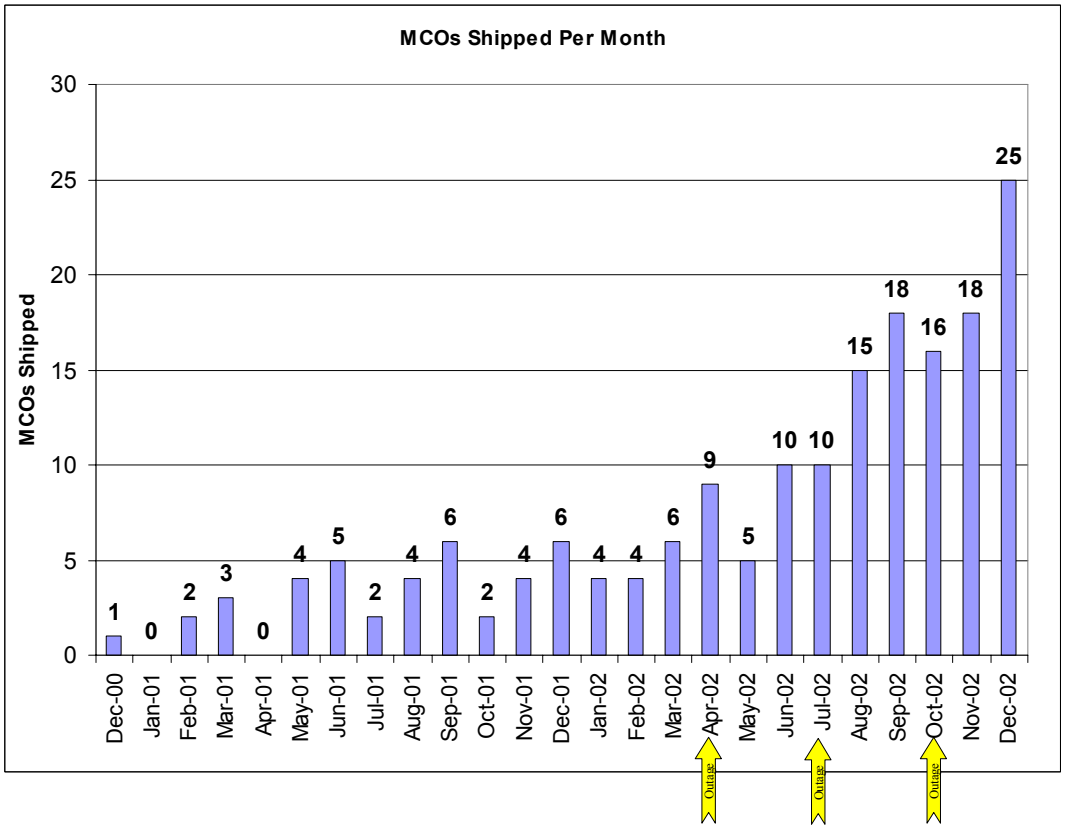
Status: The project shipped 22 Multi-Canister Overpacks (MCOs) containing 83.28 Metric Tons of Heavy Metal (MTHM) from K West (KW) to the Cold Vacuum Drying Facility (CVDF), since November 30, 2002. Cumulatively, a total of 177 MCOs containing 918.59 MTHM have been shipped. The SNF shipping schedule is currently being rebaselined to move to set shipping windows, which will allow the project to more effectively manage its resources.

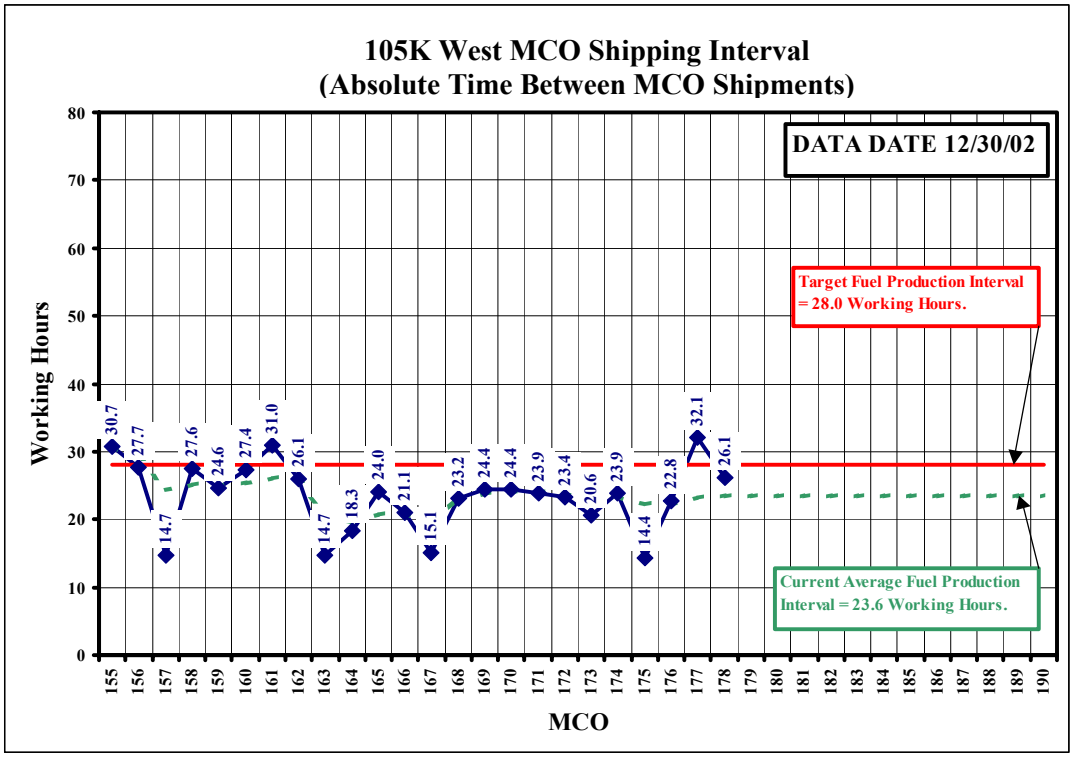
Remove 2,820 Canisters from K East (282 FTS shipments) by September 2003

Status: The project has successfully completed shipping 26 (260 canisters) of the scheduled 30 canister shipments through December 30, 2002 (23 shipments made since November 30, 2002). Efforts are currently underway to train and qualify additional staff to support two-shift (PQ) FTS Operations. The first MCO containing K East fuel was shipped on December 11, 2002.

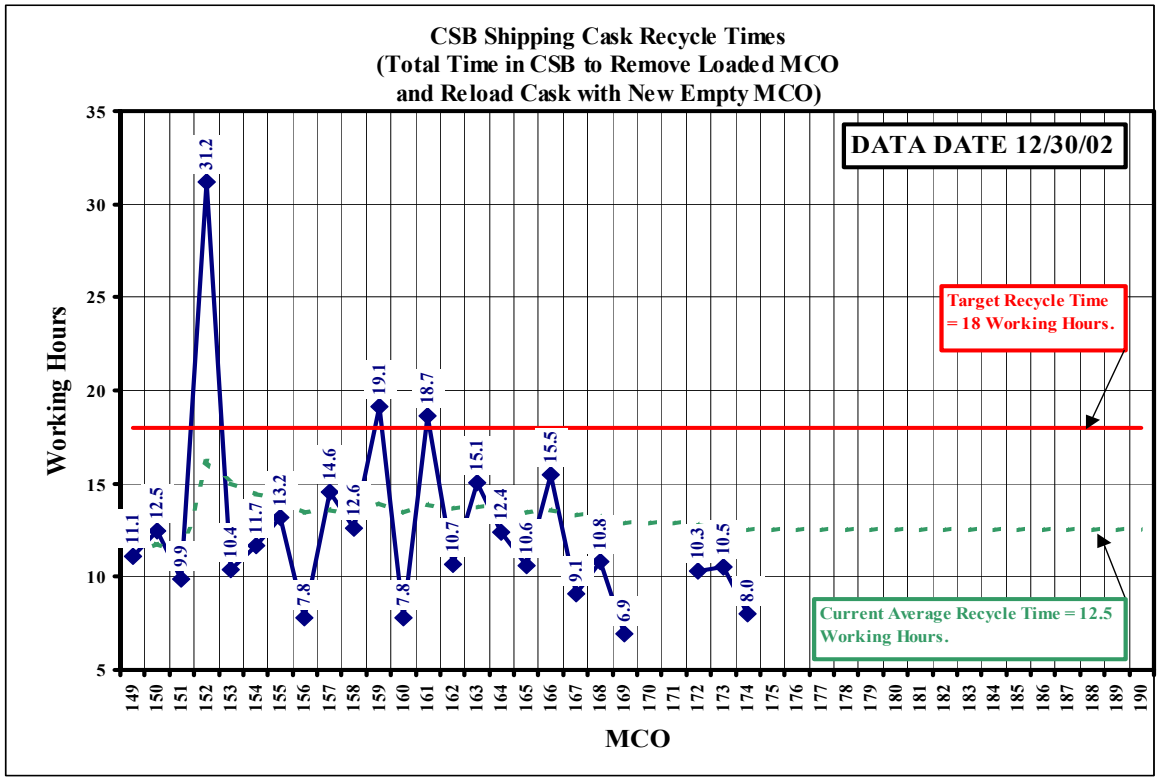


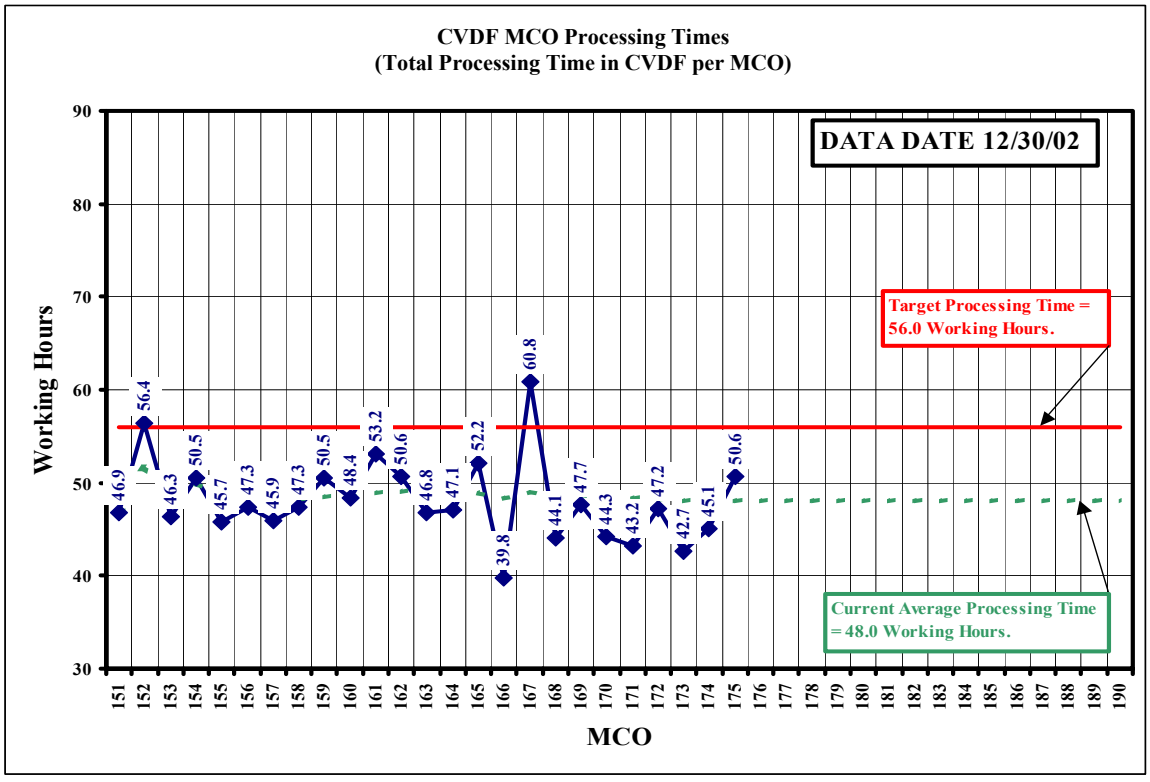
PERFORMANCE OBJECTIVES (CONTINUED)



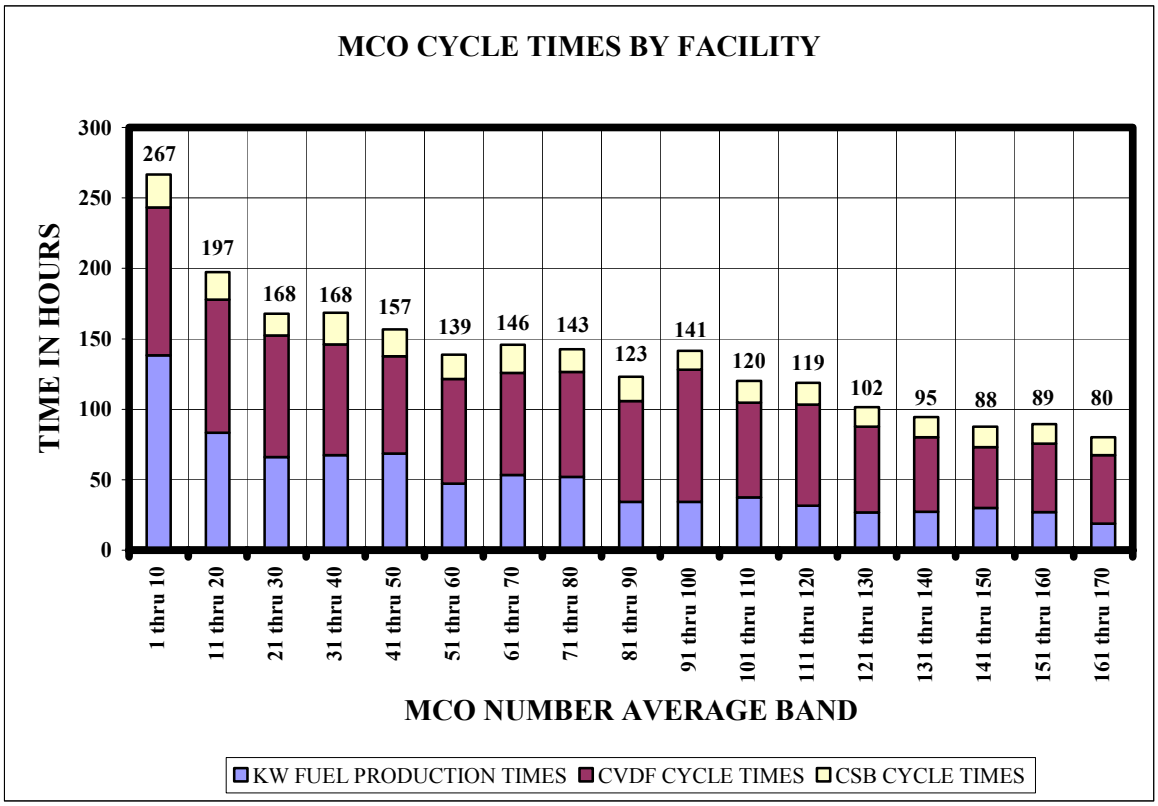


PERFORMANCE OBJECTIVES (CONTINUED)





PERFORMANCE OBJECTIVES (CONTINUED)



MCOs	KW	CVDF	CSB	TOTAL
1 thru 10	138.32	104.93	23.39	266.64
11 thru 20	83.42	94.45	19.52	197.40
21 thru 30	66.14	86.31	15.41	167.86
31 thru 40	67.40	78.58	22.49	168.48
41 thru 50	68.52	69.06	19.02	156.60
51 thru 60	47.14	74.38	17.35	138.87
61 thru 70	53.46	72.30	19.99	145.75
71 thru 80	51.98	74.42	16.30	142.69
81 thru 90	34.22	71.68	17.30	123.20
91 thru 100	34.32	93.79	13.34	141.44
101 thru 110	37.42	67.38	15.25	120.05
111 thru 120	31.67	71.62	15.42	118.70
121 thru 130	26.76	61.01	13.74	101.51
131 thru 140	27.22	53.01	14.31	94.55
141 thru 150	29.92	43.12	14.67	87.72
151 thru 160	27.04	48.52	13.83	89.40
161 thru 170	18.88	48.65	12.54	80.07

PERFORMANCE OBJECTIVES (CONTINUED)

EXPECTATION: Move Sludge and Water from K Basins
Move 3M^3 of Sludge from K East
Status: Based on the formal schedule risk assessment, the project target date to begin sludge movement is March 28, 2003. The project is approximately seven days behind the target date and actions are underway to recover schedule. Construction is in progress and punch-list items are being worked. Sludge and Water System readiness activities have commenced. Received delivery of one STS. The contractor ORR is to begin early February 2003, and DOE ORR early March, 2003. Sludge removal operations are forecasted to begin by April 4, 2003.

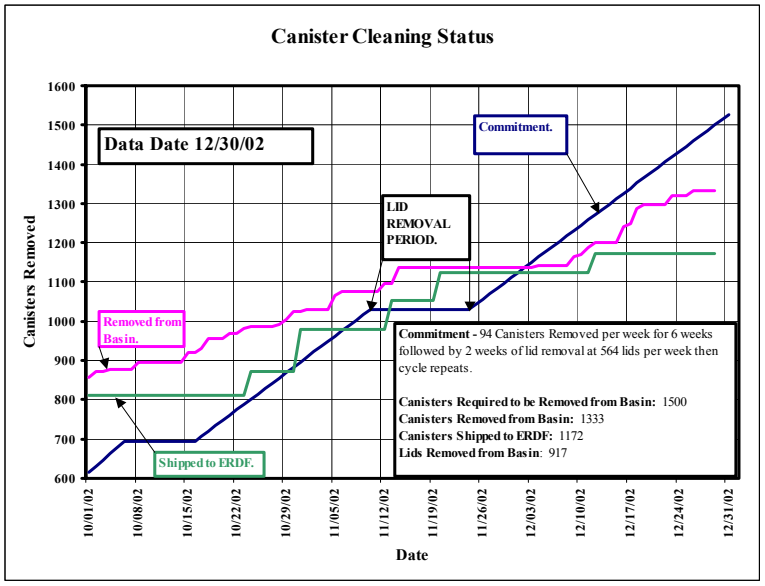
EXPECTATION: Complete welding and storage of MCOs at CSB
Complete welding 110 MCOs by September 30, 2003
Status: The project is scheduled to begin MCO welding by February 3, 2003, and complete welding 80 MCOs by August 1, 2003. Issues are being addressed that were identified during initial parameter validation welds, which revealed less than the required 120 percent penetration. Additional parameter validations are in progress to resolve the weld penetration issue.

Consolidate Non-Production Reactor Fuel

EXPECTATION: Consolidate site-wide non-production reactor fuel in 200 Area
Move four MTHM of Non-Production Reactor Fuel
Status: Ahead of scheduled. A total of 2.11 MTHM has been moved cumulatively to date. Activities supporting consolidation of fuel are shown in the accomplishments section of this report.

Canister Cleaner Operations

EXPECTATION: Remove 1,400 Canisters from the K Basins
Remove 1,400 Canisters from the K Basins and ship to the Environmental Restoration Disposal Facility (ERDF)
Status: A cumulative total of 1,133 canisters and 917 lids have been cleaned, and 1,172 canisters have been shipped to the Environmental Restoration Disposal Facility (ERDF).



FY03 SCHEDULE/COST PERFORMANCE

Cost/schedule performance is not available for this reporting status; data will be provided during the next reporting period based upon contract baseline updates as submitted to RL on January 30, 2003.

FUNDS MANAGEMENT – FY 2003 TO DATE
FUNDS VS ACTUALS ($000)

	FH Funds Allocation	FYSF	Variance
3.2.3 Spent Nuclear Fuel	$ 149,695	$ 149,695	$ -
RS03 Project Completion - Operating			
Total	$ 149,695	$ 149,695	$ -

[Status through December 2002]

ISSUES

Technical Issues

Issue: Equipment reliability continues to be a major focus for sustaining fuel movement.

Impact: Though significant progress has been realized, continued equipment failures may negatively impact meeting fuel movement commitments.

Corrective Actions: A number of Fluor consultant recommendations have been incorporated into the KW manipulator repair program, and have resulted in maintenance staff-hour savings. A Reliability, Availability, Maintainability (RAM) Engineering Group has been formed that continues focus on the reliability of the project's high-priority equipment.

Issue: Production schedule improvement.

Impact: TPA milestone **M-34-18A** December 31, 2002 due date is challenging and forecast for completion on January 7, 2003.

Corrective Actions: Continue to work with RL to gain approval to implement breakthrough initiatives identified by a Requirements Improvement Team. Four of the initiatives have been approved by RL and are completed. The project is scheduled to begin its KW Quarterly maintenance outage immediately after it completes fuel movement milestone. Outage plans include several key corrective maintenance items including repair to North Manipulator, and the installation of scrap handling equipment. Efforts are currently underway to train and qualify additional staff to support two-shift FTS Operations.

ISSUES (CONTINUED)

Issue: SWS Schedule Delays.

Impact: TPA milestone M-34-08 to begin sludge removal is December 31, 2002; forecast for completion of TPA milestone is May 28, 2003; Sludge removal operations are forecasted to begin by April 4, 2003; project target for completion is March 28, 2003.

Corrective Actions: Based on the formal schedule risk assessment, the project target date to begin sludge movement is March 28, 2003. The project is approximately seven days behind the target date and actions are underway to recover schedule. Construction is in progress and punch-list items are being worked. Sludge and Water System readiness activities have commenced. The contractor Operational Readiness Review (ORR) is to begin early February 2003, and the DOE ORR early March 2003. One Sludge Transportation System is on-site.

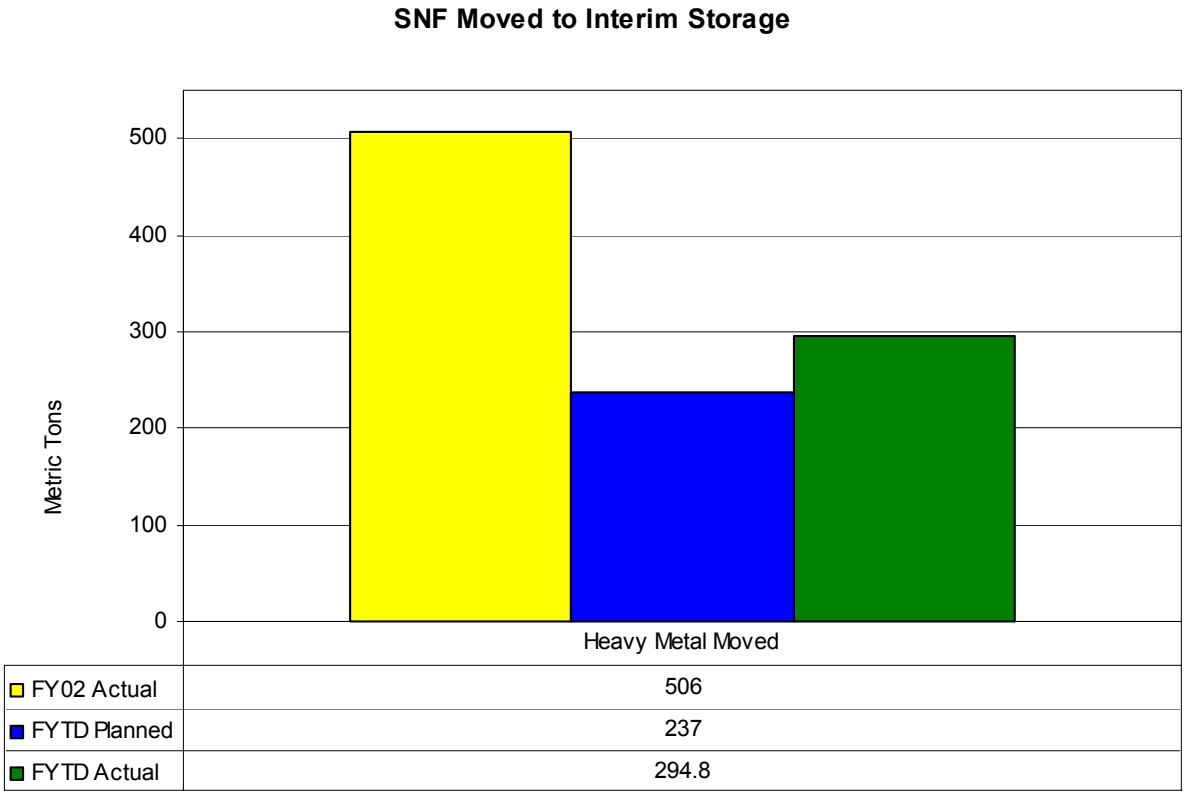
Regulatory, External, and DOE Issues and DOE Requests

None identified at this time.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

None identified at this time.

Heavy Metal Moved
(To be converted to Gold Chart Metrics in near future)



Data Date: December 31, 2002

Corrective Action Plan: The project is exceeding the fiscal year to date shipment plan by about 57.8 MTHM, as of December 31, 2002. The greater than planned performance is a result of (1) equipment reliability improvements; (2) production efficiencies; and (3) plant improvement initiatives.